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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention relates to the manufacturing method of the extraction constituent containing the OREURO pane contained in an olive leaf.

[0002]

[Description of the Prior Art]An olive is the vegetation which had people's life and close relation in the mediterranean sea district from the ancient Greece age, and the fruit is made edible. The olive oil in which real twist extraction of the olive is carried out is treasured from ancient times, and especially the oil that has flavor peculiar to an olive so that it may be represented by the virgin olive oil is treasured.

[0003]Although a virgin olive oil presses out an oil simply and so has flavor peculiar to an olive, as for one of reasons, there are more phenolic compounds which are antioxidants than usual olive oil. (F. Gutierrez Rosales et al.1992 JAOCSVol.69No.4394-395).

[0004]These days, attentions gather for the phenolic compound which is an antioxidant contained in the fruit of an olive, or olive oil. Namely, this phenolic compound checks a platelet aggregation operation, Phospholipid oxidation. It has the physiology activity of preventing (Petronietal. 1995 Thrombosis Res. Vol. 78 151-160, Visioli et al.1995 Atherosclerosis Vol. 117 25-32).

[0005]The main phenolic compounds of an olive contained very much are an OREURO pane or a demethyl OREURO pane.

The main phenolic compounds contained in a virgin olive oil are 3,4-(dihydroxyphenyl) ethanol ERENORIN acid dialdehyde or aldehyde, This is a secoiridoid compound of the OREROURO pane origin of an olive included very much (M. Servili et al. 1999 JAOCS Vol.76 p871-882).

[0006]To an OREURO pane. Blood sugar level rise depressant action (M. Gonzalez.) et al.

1992Planta Med. Vol. 585 There is a report of having 13-515 and LDL oxidation depressant action (F. Visioli et al. 1994 Life Sci. Vol. 55 No.24 1965-1971). Thus, although the SEKOIRIDORIDO compound in the olive represented by the OREURO pane is considered to be a substance useful for health promotion, An extraction constituent which is desired as a food material, which is cheap and contains an OREURO pane in high concentration and which specifically contains not less than 25% of OREURO pane was not supplied.

[0007]Although the goods which put the end of olive leaf powder into the hard capsule are sold in Europe or Israel, since the OREURO pane content of an olive leaf is low, in order to make an initial complement take, it serves as a very big capsule and cannot drink easily. Therefore, it is in the situation where development of the technique of acquiring an OREURO pane in large quantities cheaply is desired.

[0008]

[Problem(s) to be Solved by the Invention]Let it be a technical problem to develop the method of obtaining cheaply the OREURO pane which is an active principle of an olive in large quantities.

[0009]

[Means for Solving the Problem]This invention found out that an olive leaf was solvable by processing and drying [condense and] with extraction and synthetic adsorption resin with water, a water soluble organic solvent, or a hydrous organic solvent, as a result of trying hard wholeheartedly, in order to solve said technical problem.

[0010]Namely, this invention extracts (1) olive leaf with either water, a water soluble organic solvent or a hydrous organic solvent, A manufacturing method of an extraction constituent which contains an OREURO pane processing and drying [condense and] with synthetic adsorption resin not less than 25%, (2) It is related with a manufacturing method of an extraction constituent for food materials which contains an OREURO pane which processes an olive leaf with extraction and synthetic adsorption resin with either water, a water soluble organic solvent or a hydrous organic solvent, and is characterized by condensing and drying not less than 25%.

[0011]This invention is explained in detail below. When the conventional extraction technique was described before this invention, in what was indicated to U.S. Pat. No. 5714150, it was only extracting a leaf of an olive by ethanol, and was in a situation where the content is also below 20%.

[0012]In this invention, an extracting solvent extracts an olive leaf. A water soluble organic solvent or hydrous organic solvents, such as water, methanol, ethanol, and acetone, can be used for an extracting solvent, it extracts them in a temperature requirement from a room temperature to the boiling point of an extracting solvent, in methanol and ethanol, it is 75% or less, and water content of a hydrous organic solvent is 65% or less in acetone.

[0013]Subsequently, distill off an organic solvent of an olive leaf extract and an OREURO pane is made to stick to applicable synthetic adsorption resin, Then, water which added water or an organic solvent of a low content washes an impurity, it makes eluted and dries [condense and] from a synthetic resin applicable using a mixed solvent of an organic solvent or an organic solvent, and water, and an extraction solid containing an OREURO pane is obtained. As an example of applicable synthetic adsorption resin, "diagram ion HP resin" (made by Mitsubishi Chemical), "Amberlite XAD resin" (made by loam and HASU), "Duolite S resin" (made by a diamond SHAMU lock company), etc. are mentioned.

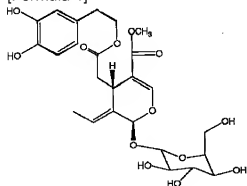
[0014]When using an organic solvent for washing, in the case of diagram ion HP20, methanol and ethanol are desirable and 10% or less of the content is desirable. It is considered as methanol by an organic solvent used for elution having methanol, ethanol, and desirable acetone in the case of diagram ion HP20, and when using by water, as for the case of acetone, ethanol makes moisture 30% or less for moisture 20% or less.

[0015]Concentration is performed under decompression or ordinary pressure, and it carries out in a temperature requirement from a room temperature to the boiling point of an extracting solvent. Spray drying of the liquid which solid content condensed from 20% to about 30% is carried out, or a concentrate is opened in a large container of an evaporation surface, and desiccation is performed by carrying out evaporation strong under a dryer or reduced-pressure-drying machine. An olive leaf extract contains an OREURO pane not less than 25% in that dry matter by this method.

[0016]Repeated use is possible for applicable synthetic adsorption resin used by manufacture of an olive leaf extract of this invention by carrying out washing reproduction with suitable organic solvents (for example, an alcohol system, an acetone system organic solvent, etc.) or alkali chemicals (for example, sodium hydroxide, a potassium hydrate, etc.). High performance chromatography performed a fixed quantity of an OREURO pane. The structural formula of an OREURO pane is as follows.

[0017]

[Formula 1]



[0018]In the olive leaf extraction dry matter which contains the OREURO pane of this invention

not less than 25%, it takes to health promotion, such as plasma board agglutination inhibition, phospholipid oxidation inhibition, blood sugar level rise depressant action, and LDL oxidation depressant action, and has useful physiology activity. For example, about blood sugar level rise depressant action, as shown in Example 2, the prominent effect was accepted.

[0019]This invention article serves as a gestalt which is soluble and is easy to use for water or cooking oil in all food processing for powder. For example, as health food, it is processible into powder medicine, granulation, a tablet, a sugar-coated tablet, a capsule, liquids and solutions, etc. In addition, simultaneously with alcohol, as foodstuffs, it is processible into the foodstuffs, the drinks, the chewing gums, and the candies which get mixed up with alcohol and are taken in.

[0020]

[Embodiment of the Invention]Next, although an example is shown and this invention is explained in more detail, thereby, this invention is not restricted at all.

[0021][Example 1] 50 ** and the 80% of hydrous acetone 50L extract 10 kg of olive leaves twice for 3 hours, It added to the resin tower which filtered and filled up the activated styrene divinylbenzene polymerization resin (the Mitsubishi Kasei Industries make, diagram ion HP20) 25L with 60 ** after concentration to 20L under decompression, the inside of a resin tower was passed by 25 L/hr, and, subsequently the water of 75L washed.

[0022]The resin tower was made to pass 80% acetone of the water of 75L by rate-of-dissolution 25 L/hr after washing, and the solution containing an OREURO pane was obtained. carrying out spray drying of this solution on concentration, and discharging temperature the conditions of 80 ** at 60 ** under decompression -- OREURO pane 31.5% -- 1.17 kg of included extraction solids were obtained.

[0023][Example 2] I got the OREURO pane content solid extracted in Example 1 to cooperate in a volunteer, and blood sugar level depressor effect was examined. I got the volunteer to abstain from food from the evening the previous day, and the blood sugar level change in the blood after ingestion was measured using the DEKISUTA glucose sensor by the case where two rice balls and 50 mg of solids are taken in at 8:00 a.m. of the next day, and the case where two rice balls (control) are only taken in. As a result, when this solid was taken in, as compared with the case where only a rice ball is taken in, remarkable blood sugar level depressor effect was accepted. That is, when a solid was taken in to the blood sugar level of 150 mg/dL having been shown in control in after-ingestion 1 hour, the blood sugar level was controlled by about 120 mg/dL.

[0024][Example 3] 50 ** and the 90% of hydrous methanol 50L extract 10 kg of olive leaves twice for 3 hours, It added to the resin tower which filtered and filled up the activated styrene divinylbenzene polymerization resin (the Mitsubishi Kasei Industries make, diagram ion HP20) 25L with 60 ** after concentration to 10L under decompression, the inside of a resin tower was

passed by 25 L/hr, and, subsequently the water of 75L washed.

[0025]The resin tower was made to pass methanol of 75L by rate-of-dissolution 25 L/hr after washing, and the solution containing an OREURO pane was obtained. carrying out spray drying of this solution on concentration, and discharging temperature the conditions of 80 ° at 60 ° under decompression -- OREURO pane 30.1% -- 1.48 kg of included extraction solids were obtained.

[0026][Example 4] 50 ° and the water 50L extract 10 kg of olive leaves twice for 3 hours, It added to the resin tower filled up with the styrene divinylbenzene polymerization resin (the Mitsubishi Kasei Industries make, diagram ion HP20) 25L filtered and activated, the inside of a resin tower was passed by 25 L/hr, and, subsequently the water of 75L washed.

[0027]The resin tower was made to pass methanol of 75L by rate-of-dissolution 25 L/hr after washing, and the solution containing an OREURO pane was obtained. carrying out spray drying of this solution on concentration, and discharging temperature the conditions of 80 ° at 60 ° under decompression -- OREURO pane 26.1% -- 1.05 kg of included extraction solids were obtained.

[0028]

[Effect of the Invention]It became possible to obtain cheaply the OREURO pane which has blood sugar level rise depressor effect in large quantities by this invention.

[Translation done.]